

In the Claims

1. (currently amended) A method of maintaining synchronization of an inband signaling system comprising the steps of:

collecting inband signaling information from samples in a signaling channel;

using the collected inband signaling information to form a plurality potential message channels;

determining which of the plurality of potential message channels relates to a desired message channel;

synchronizing the signaling system based on the collected inband signaling information; and
continuing to collect inband signaling information and using the collected inband signaling information to maintain the plurality potential message channels while the signaling system is synchronized for use in resynchronizing the signaling system when synchronization is lost.

2. (original) The method of claim 1, wherein the inband signaling information is comprised of a plurality of bits taken from samples in the signaling channel.

3. (original) The method of claim 2, wherein a plurality of sample grids are filled with the bits taken from samples in the signaling channel.

4. (original) The method of claim 3, wherein the a plurality of sample grids are maintained during the time that the inband signaling system is synchronized.

5. (original) The method of claim 1, further comprising the step of generating an inband message channel from the collected bits.

6. (original) The method of claim 5, further comprising the step of generating a second inband message channel from the collected bits.
7. (original) The method of claim 1, wherein the inband signaling system is a GSM speech network.
8. (original) The method of claim 1, wherein the inband signaling system is a TDMA speech network.
9. (original) The method of claim 1, wherein the inband signaling system is a CDMA speech network.
10. (original) The method of claim 1, wherein the inband signaling system is a W-CDMA speech network.
11. (original) The method of claim 1, further comprising the step of using the inband signaling information to facilitate tandem free operation in the inband signaling system.
12. (original) A method of facilitating tandem free operation of two devices in an inband signaling system having an inband signaling message comprised of the concatenation of the least significant bit of every Mth sample of a digital signaling channel, the method comprising the steps of:
collecting the least significant bit of samples of the digital signaling channel;
filling M sample grids with the collected bits to provide M possible sample grids;

determining whether any of the M sample grids match a reference bit pattern in order to detect the presence of an inband signaling channel;
synchronizing the two devices using a detected inband signaling channel; and
continuing to fill the M sample grids while the two devices are synchronized in order to maintain all of the possible sample grids to facilitate rapid resynchronization of the two devices if synchronization is lost.

13. (original) The method of claim 12, wherein M is 16.
14. (original) The method of claim 12, wherein the inband signaling system is a GSM speech network.
15. (original) The method of claim 12, wherein the inband signaling system is a TDMA speech network.
16. (original) The method of claim 12, wherein the inband signaling system is a CDMA speech network.
17. (original) The method of claim 12, wherein the inband signaling system is a W-CDMA speech network.
18. (original) The method of claim 12, further comprising the step of detecting the presence of a second inband signaling channel.
19. (original) A tandem free operation inband signaling synchronization system comprising:

a storage device that maintains a plurality of sample grids, wherein samples are collected from a signaling channel and are used to fill the plurality of sample grids; and
a detector that detects the presence of an inband signaling channel based on the contents of the plurality of sample grids, wherein a detected inband signaling channel is used to synchronize devices to facilitate tandem free operation, and wherein the collection of samples continues during synchronization to maintain the plurality of sample grids for facilitation of rapid resynchronization.

20. (currently amended) A method of ~~synchronizing~~ maintaining synchronization in devices in an inband signaling system comprising the steps of:

providing a synchronization technique for synchronizing one or more devices in the inband signaling system, wherein the synchronization technique involves the collection of bits from a signaling channel and filling a plurality of sample grids with the collected bits to provide a plurality of possible sample grids;

applying the synchronization technique to the inband signaling system to synchronize the one or more devices; and
continuing to apply the synchronization technique while the one or more devices are synchronized in order to facilitate rapid resynchronization of the one or more devices if synchronization is lost.

Claim 21. (canceled)

22. (original) The method of claim 21, wherein the collection of bits continues while the one or more devices are synchronized.